

AbstractABSTRACT

A syringe-type cell handling device for storing and subsequently  
transplanting, into a living body, ~~The main objects of the present~~  
5 ~~invention, which relate to regenerative medical treatments, are to~~  
~~enable (i) storage and conveyance of harvested or cultured cells~~  
~~without contamination occurring (ii) simple injection of the cells into~~  
~~a living body. To achieve these objects, cells harvested from a living~~  
~~body, or cells obtained by culturing harvested cells, are stored in a~~  
10 ~~syringe-type storage vessel and subsequently transplanted into a living~~  
~~body. The syringe-type cell handling device includes a vessel having a~~  
~~closed mouth and being at least partially composed of a main body, and~~  
~~a plunger that is slidably insertable into the main body such that the~~  
~~handling medium can be transplanted into a living body by applying a~~  
15 ~~pushing force to the plunger. At least a part of the device that~~  
~~contacts the fluid handling medium, when the vessel holds the handling~~  
~~medium, is a gas permeable region for passing a quantity of gas~~  
~~necessary for survival of the cells. It is preferable that at least a~~  
~~part of the storage vessel inner wall in contact with the cells is~~  
20 ~~formed from a cell non-adhesive material. Besides enabling cells in~~  
~~the vessel to take in the oxygen they require to survive, the present~~  
~~invention also enables quick and easy transplantation of cells into a~~  
~~living body without a cell detachment process, because cells are~~  
~~prevented from adhering to the inside of the vessel. Further, it is~~  
25 ~~preferable that a stored tissue regeneration composition contains cell~~  
~~culture microcarriers floating in a fluidity medium, and that the cell~~

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~~culture microcarriers are composed of a bioabsorbable material and have cells adhering to their surfaces. Using this kind of tissue regeneration composition, a regenerative treatment can be carried out satisfactorily by simply and quickly transplanting cells from the syringe-type cell storage vessel into a living body without intricate scaffold-related procedures being required.~~